

“nerve-supply” and “muscle-homology” is invariable and immutable. It is well at this stage to inquire how far the nerve arrangements in the Mammalian foot bear out this doctrine.

In the great majority of cases the pedal nerves have precisely the same course and distribution. The two plantar nerves enter the sole by the hollow in the os calcis. The internal plantar nerve supplies the abductor hallucis and flexor brevis hallucis (when such muscles are present). The external plantar nerve turns outwards to reach the fibular margin of the foot, where it breaks up into a superficial and deep part. The former supplies the flexor brevis and abductors of the little toe, whilst the deep part turns inwards across the sole under cover of the plantar adducting muscles, and is distributed to all the adductors and to the other intrinsic muscles of the index, medius, and annularis. The rule therefore is, that with the exception of the flexor brevis and the abductor of the hallux, the external plantar nerve supplies all the intrinsic muscles of the foot. But this is not the invariable rule. Certain well-marked exceptions are met with.

In the Elephant the internal plantar nerve supplies the flexor brevis indicis; in the Hyrax the internal plantar nerve supplies the flexor brevis indicis, the adductor indicis, and the second dorsal interosseous muscle; in the Beaver, a still more remarkable deviation is found. From the internal plantar nerve proceed the twigs of supply for the abductor hallucis, flexor brevis indicis, flexor brevis medii, and the first and third dorsal interossei. Lastly, in the Fox-bat there is an example of the external plantar nerve encroaching upon the domain of the internal plantar by supplying a twig to the outer head of the flexor brevis hallucis.

The arrangement of the digital nerves is also not without interest. It follows a more constant plan than that of the muscular twigs. In a pentadactylous foot the internal plantar nerve gives off four digital branches, which are distributed to the hallux, the index, the medius, and the tibial side of the annularis. The external plantar nerve on the other hand provides two digital branches—one for the fibular side of the minimus, and the second for the adjacent sides of the minimus and annularis. In only one instance have I observed a marked deviation from this arrangement, viz., in the *Echidna*, in which the digital nerve for the contiguous margins of the annularis and medius comes from the deep division of the external plantar, and the twig, for the outer side of the minimus proceeds from the internal plantar.

The digital nerve for the adjacent margins of the minimus and annularis is somewhat variable in its origin. In the lower members of the Mammalian class (*Ornithorhynchus*, *Echidna*, *Cuscus*, *Vulpine phalanger*, *Paca*, &c.) this branch arises from the deep division of the external plantar, and reaches its destination by coming out from under cover of the adductor minimi digiti. In the Fox-bat, *Quadrumana*, and *Man* it springs from the superficial division of the external plantar nerve, and in its course downwards it is not covered by any muscular structure. In *Thylacine* an intermediate condition is